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COMPLETE SPECIFICATION.

Improvements in Apparatus for Giving off Currents of Electricity for Curative or other Purposes.

We Archer Bellingham and Mortimer Justin both of 447, Strand W.C. in the County of Middlesex Gentlemen, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

This invention relates to an apparatus for automatically giving off currents of electricity for curative or other purposes and has for object to provide means for automatically setting in operation the various mechanisms and parts contained in the apparatus to be hereinafter described by dropping in a coin or the like.

In carrying this invention into practice there will be provided a casing preferably of an oblong shape. In the top part of this casing there will be placed a suitable battery, coils, and armature usual in this kind of apparatus, and in the lower half there will be provided a clockwork mechanism for the purpose of making and breaking the circuit when the said mechanism is put in motion by a coin dropped into the apparatus through a slit provided for the purpose in the front plate of the casing. On the front plate there is to be also placed a face on which figures or units will be marked and a hand or pointer to be operated as will be hereinafter more fully described. Two handles are also provided at a convenient distance from the ground for the person or persons being operated upon to catch hold of.

In order that the said invention may be more readily understood there is annexed hereto drawings whereof Fig. 1 is a front view of an apparatus constructed according to this invention ; Fig. 2 is a front view but with the front plate removed. Fig. 3 is cross section at line *x*, *x* Fig. 2. Fig. 4 shows on enlarged scale the clockwork mechanism employed. Fig. 5 is section at line *y y*. Fig. 4 and Fig. 6 is side view of the circuit maker and breaker.

The construction of the apparatus will be now more fully described with reference to the Figures and letters marked upon the accompanying drawings.

A is the casing containing the various parts, B the battery placed upon the shelf or

[*Price* 8*d*.]

support B^1; C shows the coils and C^1 is the armature to which is attached the rack C^2 in gear with the spur wheel D revolving with its axis D^1. Upon the axis D^1 there is also the pulley D^2 to which is attached a cord or chain D^3 working over the pulley D^4 and having at its other end a weight W. The axis D^5 of pulley D^4 is continued through the face plate and carries the hand or pointer D^6 (see Fig. 3) E is the contact breaker, T T^1 are the terminals S is a shute or hopper leading from slit S^1 (Figs. 1 & 3) in the front plate of casing A.

The clockwork mechanism consists of a spring G of the kind used in clocks generally and the train of wheels G^1 G^2 G^3 and pinions g^1 g^2 g^3. Upon the axis H of spur wheel G^1 there is the pinion H^1 in gear with the spur wheel H^2 to which is fixed the plain wheel K which has upon its periphery the stops i i^1. Upon the same axis as the spur wheel H^2 and the plain wheel K there is a third wheel L L^1 which will hereinafter be referred to as the "circuit maker" and "breaker." This circuit maker and breaker is composed of the body L of insulating material and the rim or periphery L^1 of conducting material and having a piece cut out at L^2 or there may be a piece of insulating material let in at this point, as shown in dotted lines Fig. 6. The two strips M M^1 are conductors.

The handle Z fits on to the end of the spindle D^1 and the shaft of said handle Z runs through a conductor socket piece N in the front plate (see Fig. 3). The handle Z^1 is fixed to the front plate.

One of the wires from the battery will be led to the conductor piece M and a wire will be led from the conductor piece M^1 to the terminal T. The other wire will be led from the battery to the terminal T^1 as will be seen in Fig. 2. The connections with the contact breaker and the secondary wires will be as ordinarily. One of the secondary wires will be brought to the conductor socket piece N and the other to the handle Z^1.

The lever O is pivoted at about its centre to the framing of the clockwork mechanism its point O^1 resting upon the periphery of the plain wheel K and prevents the same turning until released from the stop i. The point of the lever O is kept down upon the plain wheel by the action of spring O^2.

The working of the apparatus will now be described and we will suppose that the spring G of the clockwork is wound up and exerting itself to turn the wheel H^2 the plain wheel K and circuit maker and breaker in the direction of the arrow (see Figs. 2 3 and 5) and being prevented only from doing so by the point O^1 of the lever O resisting the passage of the stop i.

Upon placing a coin or the like in the slit S^1 it will descend through the shute S onto the end of lever O, and depress said end so freeing the point O^1 from the stop i. The spring G then acts upon the mechanism and turns the plain wheel and circuit maker and breaker. In the revolution of the circuit maker the conductor piece M comes into contact with the conducting piece L^1 and so makes the circuit. Upon catching hold of the handles Z and Z^1 the current will be obtained.

If a stronger current be desired the handle Z will be turned which action turns the spur wheel D, and so draws down the armature by means of the rack C^2. The pulley D^2 is also revolved and draws on the cord or chain D^3 and so turns the pulley D^4, its axis D^5 and the hand or pointer D^6.

The weight W is also by this action drawn upwards, and when the handle Z is released it will fall and so bring the handle, armature, and pointer to their normal position.

The circuit maker, and the mechanism will continue to revolve until the stop i, comes in contact with the lever O, and when this is done the cut out or insulated portion L^2 of the circuit maker will have travelled opposite to the point of the conductor strip M^1 and so the circuit will be broken. When a second coin is dropped into the apparatus, the lever will be released and the operation be the same as before described until the stop i comes again in contact with the point of the lever O.

The various conducting parts will be insulated from the clockwork and other parts in any well known manner.

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Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed. We declare that what we claim is:—

Firstly: The circuit maker and breaker, consisting of the body of insulating material L and the rim of conducting material L^1 with the insulated part L^2 in combination with the conducting strips M M^1 as herein described and shown in Figures 2, 4, and 6, of the drawings.

Secondly: The combination of the various parts forming the electrical machine for automatic circuit making and breaking and registering strength of current as herein set forth and shewn by the drawings.

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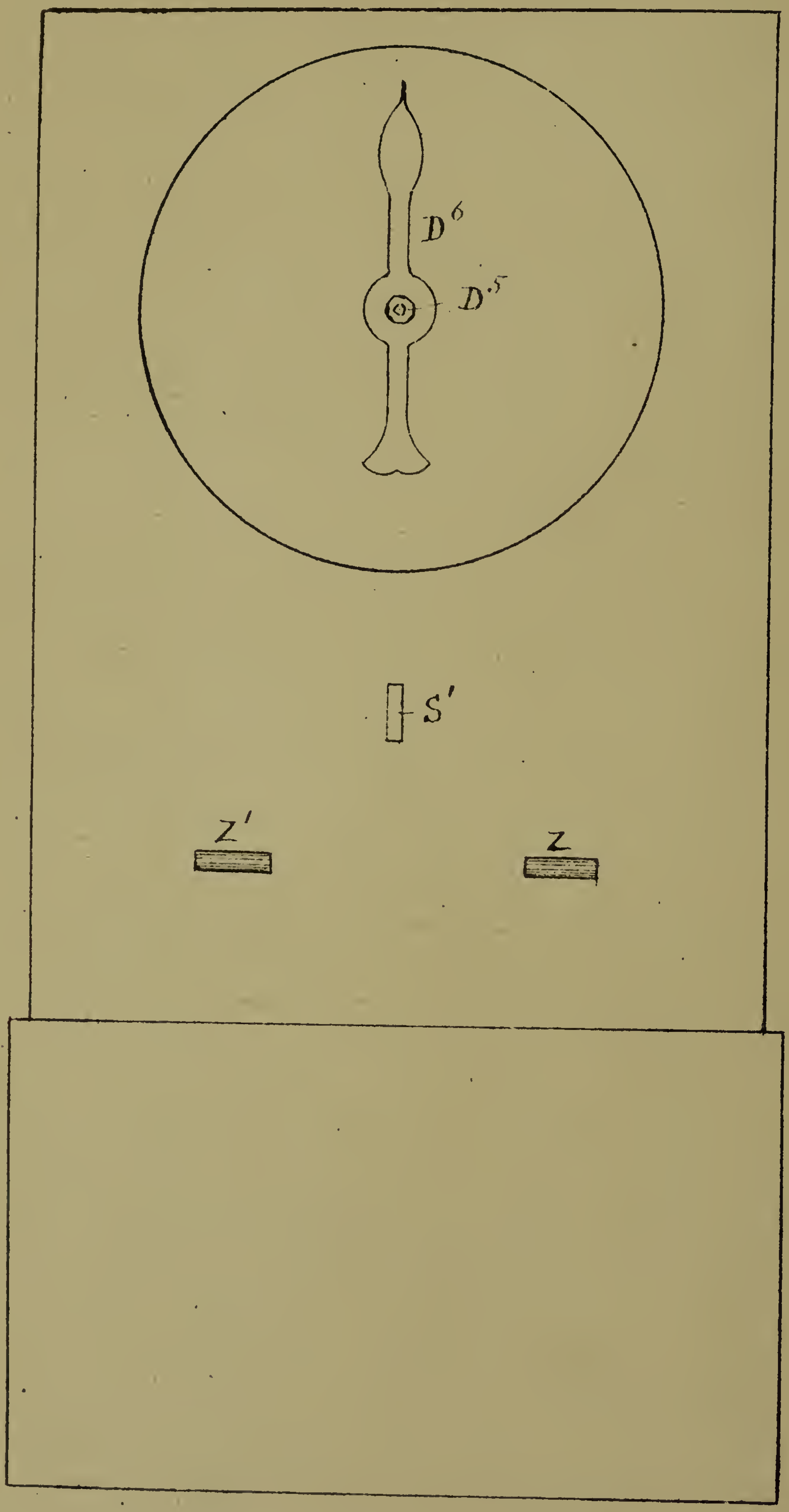
Fig 1



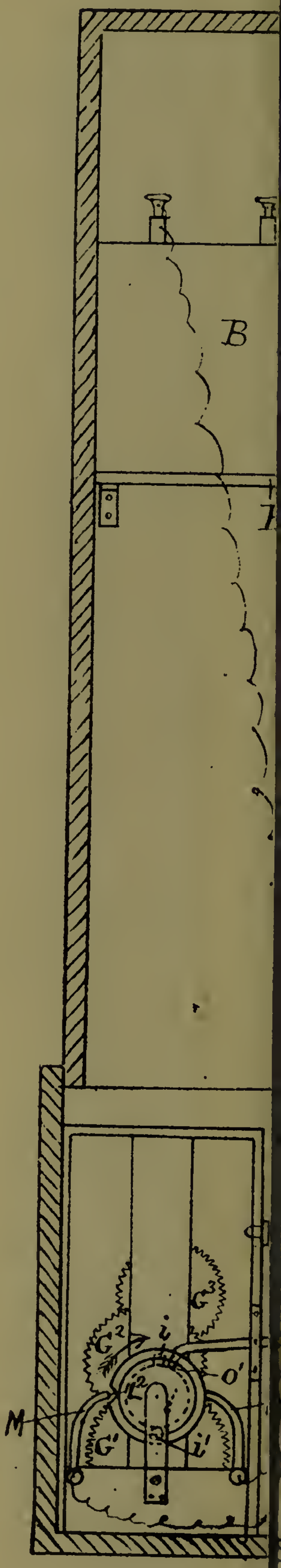


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FIG. 2

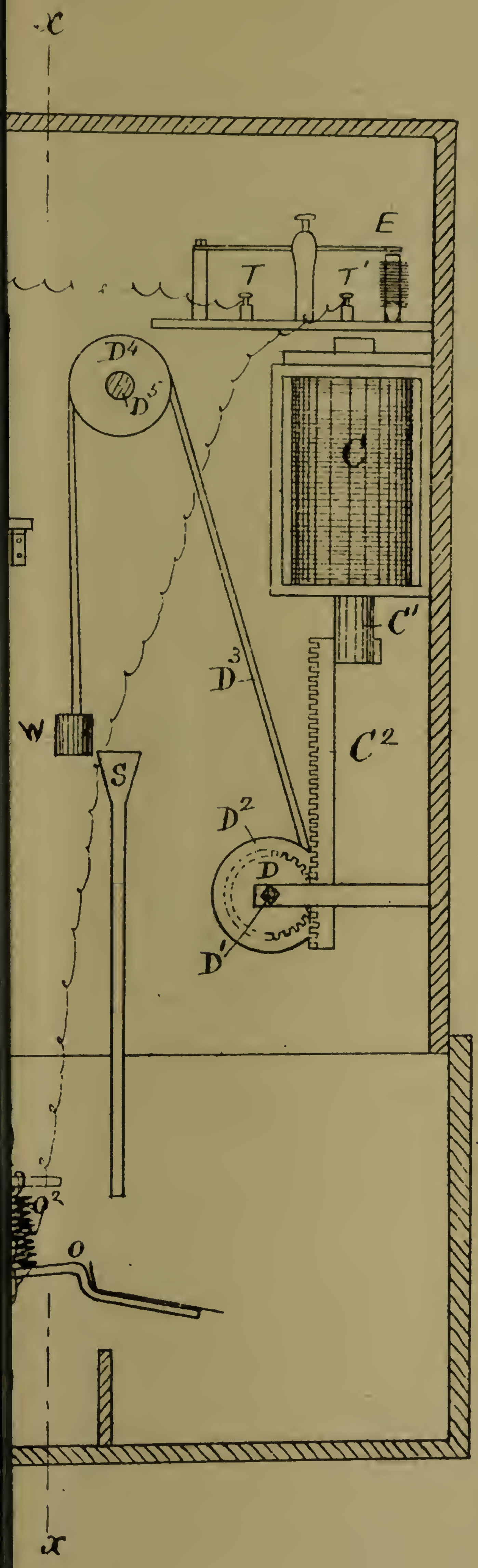
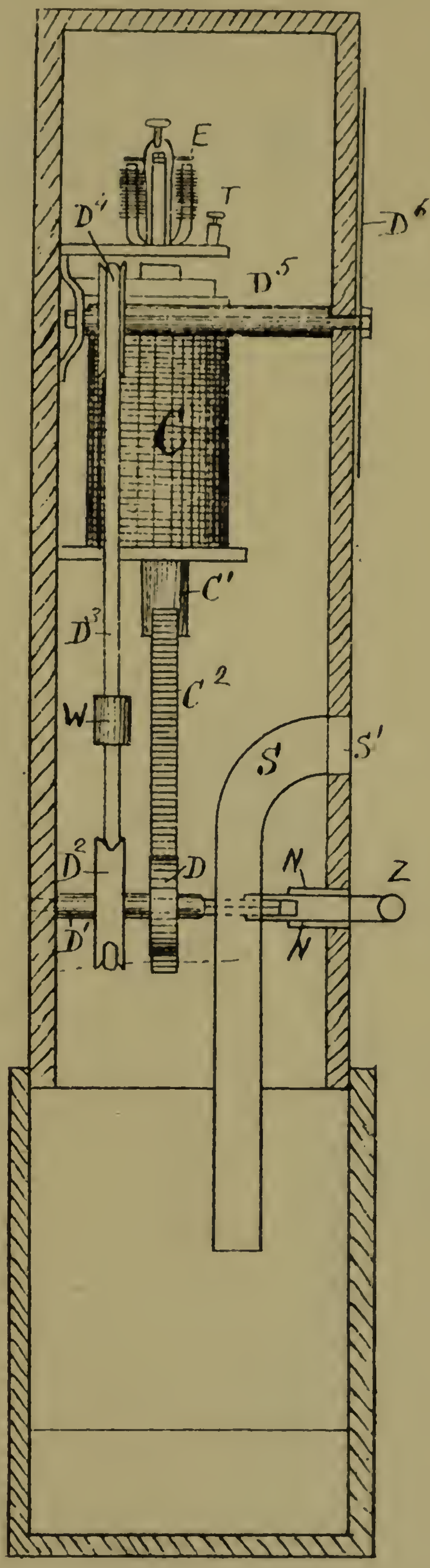


FIG. 3



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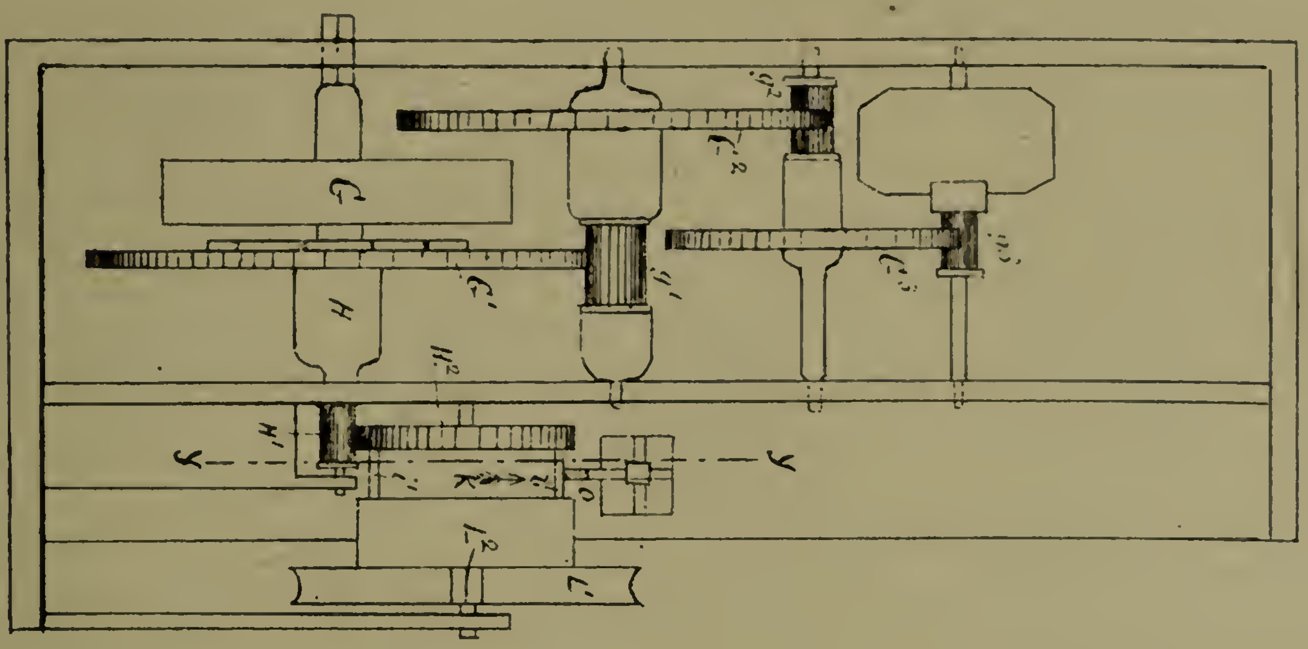

Fig. 4

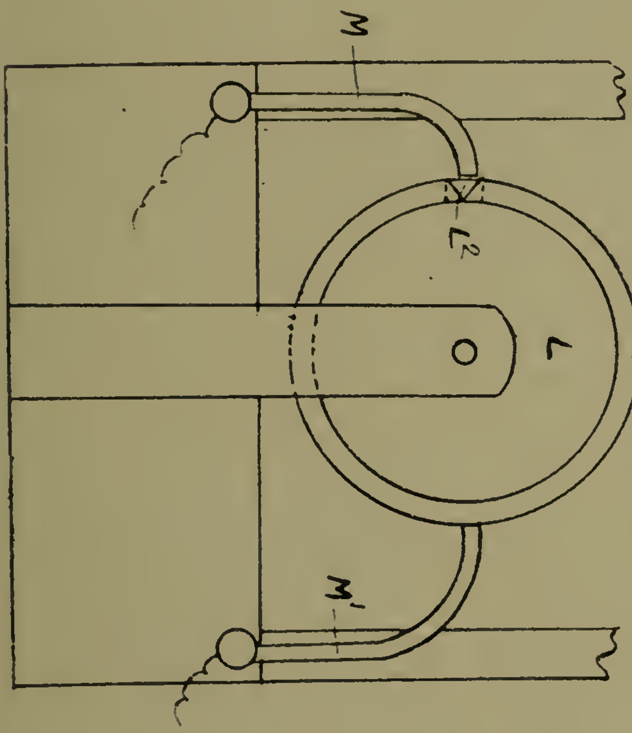

Fig. 6.

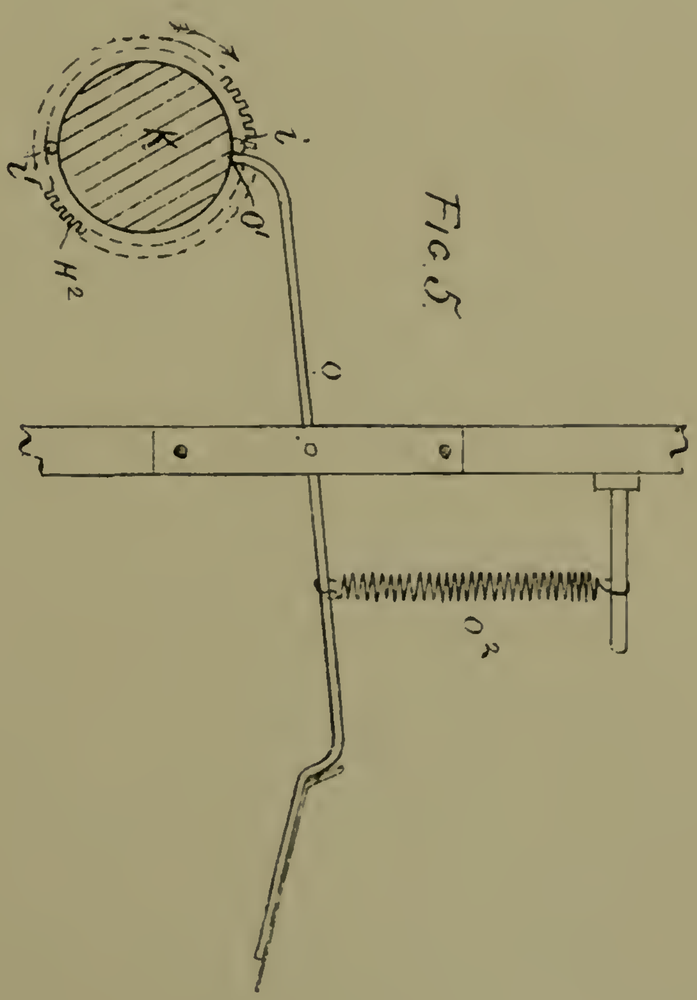

Fig. 5.

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